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Evolution of the perseid meteor shower over last 130 years from visual observations

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Abstract

Visual observations of the Perseid meteor shower carried out between the last two returns of the comet Swift-Tuttle are processed with the use of the method developed by the authors. The conclusion is made that the maximum of the shower activity for particles with masses corresponding to meteors of magnitude +3m and higher was observed at an average longitude of the Sun equal to 140.1°, with the exception of the years of perihelion passage by the comet. The shower activity grew exponentially and has increased by a factor of 4 in 130 years. The reasons for such an increase in the Perseid activity are discussed.